

IN THE CLAIMS

Claim 1. (Currently Amended) 1. A method of controlling the dissemination of routing information on a communication network, the method comprising the steps of:

receiving a link state advertisement from the network;

ascertaining distance information associated with at least one of the link state advertisement and link state information contained in the link state advertisement; and

selectively forwarding the link state advertisement on the network based on the distance information without regard to an identity of a network element that initiated the link state advertisement, ~~the step of selectively forwarding depending on the ascertained distance information.~~

Claim 2. (Original) The method of claim 1, wherein the step of selectively forwarding comprises:

forwarding the link state advertisement on the network where the distance information indicates the link state advertisement is likely to be relevant to other nodes on the network and not forwarding the link state advertisement on the network where the distance information indicates the link state advertisement is not likely to be relevant to other nodes on the network.

Claim 3. (Original) The method of claim 1, wherein the step of selectively forwarding comprises:

forwarding the link state advertisement on the network if the link state advertisement contained link state information that was relevant, and not forwarding the link state advertisement on the network if the link state advertisement contained information that was not relevant.

Claim 4. (Original) The method of claim 3, wherein the step of ascertaining distance information comprises analyzing whether link state information contained in the link state advertisement is relevant.

Claim 5. (Original) The method of claim 4, wherein the distance information is contained in the link state advertisement.

Claim 6. (Original) The method of claim 1, wherein the distance information is measured by the sum of link costs.

Claim 7. (Currently Amended) A network topology, comprising:

a plurality of OSPF routers interconnected in a network and belonging to an OSPF area, said plurality of OSPF routers being configured to limit the dissemination of Link State Advertisements (LSAs) within the OSPF area by forwarding LSAs according to distance information carried by the LSAs and without regard to an identity of a network element that initiated the link state advertisement, such that not every OSPF router within the OSPF area receives every LSA.

Claim 8. (Original) The network topology of claim 7, wherein the plurality of OSPF routers are interconnected in an ad-hoc wireless mesh network.

Claim 9. (Original) The network topology of claim 7, wherein the network is configured such that LSAs are disseminated only a predefined distance within the OSPF area.

Claim 10. (Original) The network topology of claim 7, wherein a subset of the OSPF routers are focal nodes.

Claim 11. (Original) The network topology of claim 10, wherein the network is configured such that LSAs are disseminated only a predetermined distance within the OSPF area.

Claim 12. (Original) The network topology of claim 11, wherein the predetermined distance is selected such that each LSA is received by at least two focal nodes.

Claim 13. (Original) The network topology of claim 11, wherein nodes on the network other than focal nodes are configured to maintain a routing table containing information obtained from LSAs, said routing table containing information associated with at least two focal nodes.

Claim 14. (Original) The network topology of claim 10, wherein the focal nodes are area border routers to an OSPF backbone area.

Claim 15. (Original) The network topology of claim 14, wherein the focal nodes on the OSPF backbone area are configured to disseminate link state information for nodes in their local area, their local area being defined as that portion of the network from which the focal nodes receive LSAs.

Claim 16. (Currently Amended) A network node, comprising:

control logic configured to inspect a link state advertisement received from a network, ascertain distance information associated with the link state advertisement, and selectively drop the link state advertisement if the distance information exceeds a predetermined metric, wherein the control logic does not consider an identity of a network element that initiated the link state advertisement in connection with selectively dropping the link state advertisement.

Claim 17. (Original) The network node of claim 16, wherein the control logic is configured to ascertain the distance information from information contained in the link state advertisement.

Claim 18. (Original) The network node of claim 16, wherein the metric is a sum of link costs associated with the link state advertisement.

Claim 19. (Original) The network node of claim 16, further comprising a routing table, and wherein the control logic is further configured to update information in the routing table from link state information contained in the link state advertisement if the information is determined to be relevant.

Claim 20. (Original) The network node of claim 16, further comprising a routing table, and wherein the control logic is further configured to update information in the routing table from link state information contained in the link state advertisement, and wherein the control logic is configured to selectively drop the link state advertisement if the link state advertisement is not likely to be relevant to another router on the network.